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ABSTRACT

This chapter furthers the discussion of intrinsic and extrinsic motivation by contending that learning and studying are multidetermined and that intrinsic motivation is typically accompanied by extrinsic motivation. The chapter begins with a discussion of the concept of future time perspective as a cognitive-motivational personality characteristic. Future time perspective is posited as resulting from motivational goal setting and provides utility value or instrumental value to present activities, such as studying, thereby adding to the intrinsic and extrinsic motivation of the activity. The chapter then discusses experimental and correlational research validating the notion of instrumental motivation and showing how it relates to students' intrinsic motivation, task orientation, performance orientation, level of information processing, time spent studying, and academic grades. The data show that student motivation, task orientation, and self-regulation are enhanced when the student is oriented toward future goals and tasks that are endogenously related to the present tasks and are not perceived as external regulators of behavior. It is argued that, to the extent that learning is motivated by future goals (instrumental motivation), it is not rewarding in itself. Consequently, instrumental motivation can only be extrinsic, and instrumental motivation, as a type of extrinsic motivation, is not necessarily worse than intrinsic motivation. (Contains 80 references.) (KB)

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CHAPTER 8

FROM DUTY TO DESIRE

The Role of Students' Future Time Perspective and Instrumentality Perceptions for Study Motivation and Self-Regulation

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Learning, performing, and achieving in school are intentional, goal-oriented activities. Students may have many and very different reasons for studying. For most (if not all) students, learning and studying are "multidetermined." The goals that are strived for and that determine student motivation can be situated on two dimensions: intrinsic versus extrinsic goals and immediate versus future goals.

Until recently, research on student motivation mostly discussed different types of intrinsic motivation (Ames, 1992; Ames & Ames, 1984; Covington, 2000; Dweck, 1986; Stipek, 1993). For example, Atkinson's theory of resultant achievement motivation (Atkinson & Feather, 1966) was developed as a within-subject decision theory, trying to explain people's preferences for achievement tasks with different levels of difficulty. The theory was, however, mostly used to explain interindividual differences in achievement motivation and in the level of performance in achievement tasks (e.g., GPA). It is a theory about the intrinsic motivation to strive for success and to avoid failure in the achievement task at hand. Pride in accomplishment when succeeding in a difficult task and shame when failing in a not-too-difficult task are the emotions that are inherently associated with the need for achievement and the

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fear of failure. Other types of intrinsic motivation are curiosity, interest, need for competence, and need for autonomy (see Pintrich & Schunk, 1996).

Motivational research in educational psychology stresses the importance of students being intrinsically motivated and neglects the role of extrinsic motivation. In organizational psychology, it is more or less the reverse. Theories of work motivation emphasize more the role of extrinsic motivation than of intrinsic motivation. In spite of these emphases, we argue not only that workers and their bosses can be intrinsically motivated for their job but that many students are also extrinsically motivated to do their best at school. The total motivation to learn (and to work) is a combination of intrinsic and extrinsic motivation. Students are intrinsically motivated when learning or performing is a goal in itself. They are extrinsically motivated to the extent that those activities are done for the sake of material or other rewards and contingencies that are not intrinsically related to school learning. Learning and doing well in tests and exams are then instrumental activities to earn rewards or to avoid punishment. The main topic of this chapter is to discuss one particular type of extrinsic motivation—we will call it *instrumental motivation*—and how it relates to intrinsic student motivation.

For many years, the total motivation to study or to work was assumed to be a function of the sum of intrinsic and extrinsic motivational components. Each intrinsic and extrinsic goal of an action can be conceived of as an additional source of motivation for that action. However, numerous experimental studies over the last 25 years show that intrinsic and extrinsic sources of motivation are not necessarily additive. Salient, promised extrinsic rewards that are exogenous to the nature of the learning or the achievement task may undermine the existing intrinsic motivation (Deci, 1975; Deci, Koestner, & Ryan, 1999; Deci & Ryan, 1985, 1992; Lepper & Greene, 1978; Luyten & Lens, 1981). Rewards and other controlling variables may cause a shift in the locus of causality from internal to external. Intrinsically motivated individuals see their own interest in the subject matter or the task as their sole reason for doing it. When they then repeatedly receive extrinsic rewards for doing the same activities, those rewards will gradually be perceived as the (external) reasons for learning or performing. After a while, the extrinsic rewards rather than the intrinsic interest come to control the activities. The perception of autonomy or self-determination and the intrinsic interest disappear. Lepper and Greene (1978) refer to this phenomenon as "the hidden costs of reward."

Not only announced rewards but also summative evaluation, surveillance, coercion, time, and pressure may cause a change in locus of causality from internal to external. These circumstances undermine the intrinsic motivation and very often lower the quality of performance. It is our opinion that the low level of intrinsic motivation among many high school pupils is partly due to this undermining effect of the many extrinsic rewards they receive for doing their best at school and for high marks.

Harter and Jackson (1992) found "a systematic, grade-related, shift from a predominantly intrinsic motivational orientation in third grade to a more extrinsic motivational orientation by ninth grade, the biggest shift occurred between the sixth grade elementary school students and the seventh grade junior high school students" (pp. 223–224).

More recent experimental and meta-analytical studies show, however, that the adverse effects of extrinsic rewards only occur under restricted conditions (Cameron, 2001; Deci, Koestner, & Ryan, 2001; Deci, Ryan, & Koestner, 2001; Eisenberger, Pierce, & Cameron, 1999; Eisenberger & Cameron, 1996; Eisenberger, Rhoades, & Cameron, 1999). Extrinsic rewards do not have this negative effect on intrinsic motivation when they are given in such a way that their controlling aspect is much less salient than their informative aspect. They can then enhance self-perceptions of competence and increase even intrinsic motivation itself (Deci & Ryan, 1985; Rigby, Deci, Patrick, & Ryan, 1992, p. 168).

A still ongoing discussion between Cameron and her collaborators on one hand and Deci and his collaborators on the other deals with how limited or how general the undermining effect of extrinsic rewards or contingencies seems to be in empirical research. We refer the interested reader to the publications by Cameron and Deci in *Review of Educational Research* (2001, Vol. 71, Number 1).

Finally, students (and employees) who are not intrinsically motivated at the start may develop an intrinsic interest in an activity. As long as they are purely extrinsically motivated, the action is a means to obtain the extrinsic rewards. But, as noted by James (1890), Woodworth (1918), Allport (1937), and Lewin (1938), means may become ends. Activities such as studying, carpentry, or jogging may originally be motivated by extrinsic goals such as rewards, making a living, or staying in good health. Nevertheless, after a while, the same activities can become intrinsically interesting for an individual. Allport (1937) wrote about "the functional autonomy of needs" and Woodworth (1918) referred to this process as "mechanisms become drives." Pupils who solve mathematical problems because the teacher or the parents promises them a reward for doing it may find out that they are good at it or that it is fun to find a solution for a challenging problem. Their feelings of competence will be strengthened and an intrinsic interest in math may develop.

Many good students are not only intrinsically motivated toward their studies, they also have future educational, professional, and even life goals that motivate them as students. "Do your best at school, it is so important for your future" is motivating advice that many parents and teachers use around the world. Schooling is future oriented. Many students are motivated to do their best and to do well because they want to follow a particu-

lar type of education in high school, college, or graduate school and to have a particular profession in adult life.

This component of motivation, which derives from future goals that are contingent on present schoolwork and school grades, is called *instrumental motivation.* Learning and earning good grades have a utility value (Eccles, 1984; Eccles, Barber, Updegraff, & Wigfield, 1997; Wigfield & Eccles, 1992) when they are perceived as instrumental for achieving other goals in the near or distant future. This implies that instrumental motivation requires that students have set goals for themselves in the near and distant future; that they have developed a future orientation or future time perspective.

In this chapter, we first discuss the concept of future time perspective as a cognitive-motivational personality characteristic. Future time perspective is motivationally relevant in the sense that it results from motivational goal setting. Moreover, it can have motivational consequences because it provides utility value or instrumental value to present activities. As a consequence, additional instrumental motivation will be added to the already present intrinsic and extrinsic motivation. We also discuss experimental and correlational research validating the notion of instrumental motivation and show how it relates to intrinsic motivation, task orientation, performance orientation, level of information processing, time spent studying, and academic grades.

MOTIVATIONAL GOAL SETTING AND FUTURE TIME PERSPECTIVE

Time perspective refers to the chronological past, present, and future insofar as they are part of an individual psychological life space. Future time perspective (FTP) is then the degree to which and the way in which the chronological future is integrated in the present life space of an individual (Lewin, 1942). The integration of the future in the present is analogous to the integration of more or less remote places in the present life space. Being aware of places and distances in space and of moments or intervals in time (the past and the future) is necessary but not sufficient to have much psychological effect. The psychological distance to a given place can differ strongly among people living in the same city. For many Belgian people, Paris is psychologically very far away. They will never consider any action that would require them to travel there. For others, Paris is almost in their backyard. Analogous to the psychological experience of the spatial world, there are large individual differences in the extension or depth of future time perspective. Some people have a short FTP—only the very near chronological future is part of the temporal world in which they live; they do not take into account what will come later. Others live with a long FTP; their present temporal life space extends into the

very distant future. People with a long FTP have no problem considering and being motivated by, in the present, events or action outcomes expected to happen in the rather distant future.

We conceptualize future time perspective as an acquired personality characteristic that results from motivational goal setting and delay of gratification (Lens, 1986; Nuttin & Lens, 1985). On the covert level, people cognitively elaborate and concretize their needs, motives, and cravings into more specific motivational goals, means–end structures, or behavioral plans and projects. Students, for example, specify their need for achievement and/or their need for self-realization by planning to succeed in their exams, going to college, becoming a teacher or farmer. It is only after such specifications that needs and motives will affect overt behavior. Such motivational goals and behavioral plans can be analyzed for their content or the motivational domain to which they belong (e.g., hunger, thirst, sex, affiliation, curiosity, achievement, power) and by their spatiotemporal localization (where and when they will be achieved). By definition, presently anticipated positive and negative motivational goals are situated in the future. But the temporal distance to subgoals and final goals can vary from very short (e.g., going for a swim this afternoon) to very long (e.g., the student who prepares for an entrance examination for college because she intends to become a surgeon). They can even extend beyond the individual lifetime (e.g., saving money for one's funeral, going to heaven). Formulating distant motivational goals and developing long-range behavioral projects to achieve those goals creates a long or extended future time perspective. As such, FTP can be defined as the present anticipation of future goals. People with a rather short FTP set most of their realistic goals in the near future. People with a longer or deeper FTP set for themselves more goals that can only be achieved in the distant future. In comparison with people with a short FTP, people with a long FTP have relatively more long-term than short-term goals. Thus, "future time perspective evolves from motivational goal setting. It is formed by the more or less distant goal objects that are processed by an individual" (Nuttin & Lens, 1985, p. 22).

From adolescence, most youngsters start to develop realistic plans and projects regarding their education, profession, and life in general. This is one of their important developmental tasks (Nurmi, 1994; Verstraeten, 1980). Goal setting and developing such motivational and behavioral projects are motivating because they attach utility to a number of activities such as doing one's best in high school, going to high school, or keeping up physical training. Having important future goals also makes it easier to delay gratifications and to forsake immediate but less important and also attractive rewards and pleasures (Mischel, 1981).

This motivational conceptualization of FTP as resulting from goal setting and motivational planning has a long history in psychology, especially in Europe:

> The setting of goals is closely related to time perspective. The goal of the individual includes his expectations for the future. (Lewin, 1948, p. 113)
>
> Wie die Vergangenheit, so ist andererseits auch die Zukunft in der Gegenwart des Erlebens enthalten. Jede erlebte Gegenwart ist Vorgriff in die Zukunft. Das gilt im dem Masse, als jeder Augenblick des seelischen Lebens durchwirkt ist von der Thematik und Dynamik seelischer Strebungen, die auf die Verwirklichung eines noch nicht bestehenden Zustandes gehen. (Lersch, 1966, p. 47)
>
> For Fraisse (1963), "the future only unfolds in so far as we imagine a future which seems to be realizable.... There is no future without at the same time a desire for something else and awareness of the possibility of realizing it." (pp. 172, 174)
>
> For Nuttin (1964), "the psychological future is not just a learning effect of the past, it is essentially related to motivation ... the future is the time quality of the goal object; the future is our primary 'motivational space'"(p. 63) and "le phénomène primaire de la direction vers le futur, tel qu'il se produit grâce au besoin, n'est qu'une orientation générale; elle se limite à un futur très immédiat, comme c'est le cas chez l'animal.... C'est grâce au développement supérieur des fonctions cognitives et leur influence dans l'élaboration des besoins—notamment dans les processus de position de but...que, chez l'homme, l'anticipation va se détacher graduellement de la situation actuelle et que des "perspectives" profondes vont s'ouvrir. (Nuttin, 1980, p. 13)
>
> For Gjesme (1981), "an individual's future time orientation (FTO) develops gradually to become a relatively stable personality characteristic in terms of a general capacity to anticipate and enlighten the future, including a cognitive elaboration of plans and projects and reflecting the degree of concern, involvement and engagement in the future." (p. 125)

As we conceive it, future time perspective results from motivational goal setting and affects the strength of the motivation to strive for those goals and realize projects and plans. The motivational importance of individuals' perception of the future is also present in the concept of "possible selves," developed by Markus and her colleagues. For them "possible selves represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming . . . ; possible selves . . . as the cognitive manifestation of evolving goals, aspirations, motives, fears and threats . . ." (Markus & Nurius, 1986, p. 954; Markus & Wurf, 1987). Oyserman and Markus (1990a, 1990b) found that balanced possible selves—combining positive (hoped for) and negative (feared) possible selves within a given domain—are more adaptive than are unbalanced possible selves that consist of only positive or negative future selves.

We now discuss the process behind the motivational effects of individual differences in future time perspective. We first formulate a theoretical model that explains these motivational effects of individual differences in FTP (De Volder & Lens, 1982; Lens, 1986; Zaleski, 1987, 1994) and then apply it to student motivation. The underlying process is conceptualized in terms of the psychological distance toward future moments (Gjesme, 1982) and the expectancy x instrumentality x value models (VIE models) of human motivation (Eccles, 1984; Feather, 1982).

MOTIVATIONAL EFFECTS OF FUTURE TIME PERSPECTIVE

The top part of Figure 8.1 shows how the cognitive processing of motives or needs leads to individual differences in the extension of future time perspective we discussed earlier. The second part outlines how these individual differences have motivational consequences via the psychological distance toward the future, the perceived instrumental value of present actions for future goals, and the anticipated incentive value of those goals in the near or more distant future.

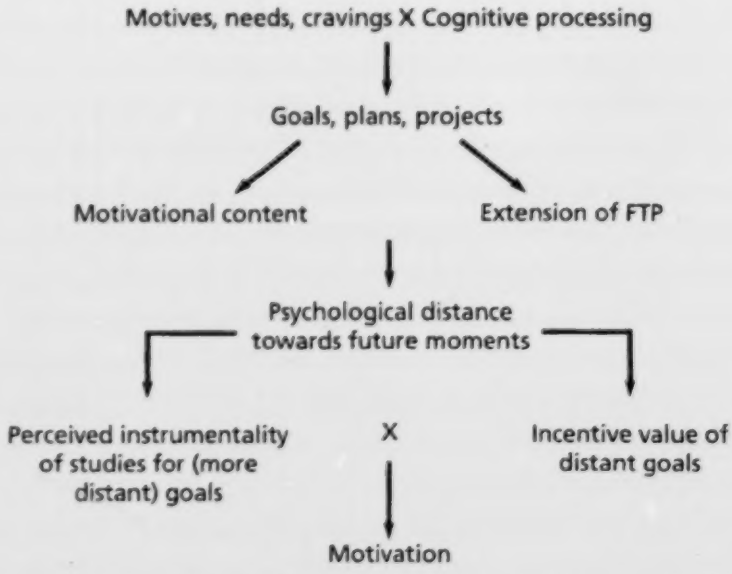

Figure 8.1. The motivational meaning of individual differences in future time perspective.

Table 8.1. Psychological distance (in cm.) of time intervals into the near future. (1 week & 1 month) and into the distant future (0.5, 1, and 5 years) as a function length of future time perspective (FTP)

FTP	*N*	*Near Future*	*N*	*Distance*
Very long	61	2.93	61	9.03
Long	61	3.69	61	9.48
Short	61	4.10	60	9.67
Very Short	62	4.54	62	10.38

People who live with a long FTP experience a given chronological time interval into the future as shorter than do people with a short FTP experience. This is especially true for intermediate intervals of time (further than tomorrow or next week, but not so far as 20 years or more). Individuals with a long FTP do indeed experience the intermediate future as more near than do individuals with a short FTP. To measure the psychological distance, Moreas and Lens (1991) used Cottle's line test (Cottle & Pieck, 1969) and asked high school students (Grade 9) to draw lines representing how far away 1 week, 1 month, 6 months, 1 year, and 5 years from now was for them. The maximum length permitted was 15 centimeters. The longer the experienced distance, the longer were the lines. The order of the chronological intervals was randomized. As shown in Table 8.1, Moreas and Lens found that students with a long future time perspective drew significantly shorter lines for the near future (1 week and 1 month) and for the distant future (0.5, 1, and 5 years) than did students with a short future time perspective. For the 5-year period, 149 of 244 participants (61%) used the maximum line of 15 centimeters. The psychological distance of 5 years for high school students may have been underestimated in this study, given the ceiling of 15 centimeters.

There is a curvilinear relationship between age and length of FTP. Young adolescents start to develop a realistic FTP that expands with increasing age until midlife. From then on, length of FTP decreases. That is of course highly correlated with the number of years one realistically can expect to live. Length of FTP is also correlated with socioeconomic status (SES). Individuals with lower SES generally have a shorter FTP than do those in the middle class (Lens & Gailly, 1980). For which chronological distance the difference in psychological distance between people with a long and a short FTP is largest depends on variables such as intelligence, age, and SES that are correlated with FTP extension. For example, 20 years from now will be very far for adolescents, whatever their FTP. For young adults with a long FTP it will be nearer than for those with a short FTP. But 50 years from now will be so far away psychologically for that age group that the length of their FTP does not make a difference any longer.

To explain the motivational effects of individual differences in FTP, De Volder and Lens (1982) made a distinction between a cognitive and a dynamic aspect in FTP. The *cognitive aspect* refers to the capacity to anticipate in the present not only the immediate but also the long-term consequences of a potential action. Students with a long FTP can more easily anticipate the implications of their present class activities for the more distant future and elaborate on the covert level longer behavioral means–end structures (plans or projects). As a consequence, the utility value, or the instrumentality of present actions (e.g., studying, getting good grades), increases. This will increase the instrumental motivation for their present learning and achievement tasks in school.

The *dynamic aspect* of FTP is conceived of as a disposition to ascribe a high valence to goals, even if these goals can only be reached in the more distant future. In general, the incentive value of a given reward decreases as a function of the length of its temporal delay (Ainslie, 1992; Hernnstein, 1970; Logue, 1988; Mischel, 1981; Rachlin, 1995). This decrease is less steep for individuals with a long FTP than for individuals with a short FTP. Because the psychological distance toward such delayed goals is shorter for individuals with a long FTP, the incentive value of chronologically distant goals will be higher the longer the FTP. As a consequence, the effect of individual differences in the extension of FTP on the incentive value will be smaller for goals in the very near or very distant goals than for goals in the intermediate future.

We know from empirical research validating the expectancy value—or VIE theories—in motivational psychology that people are more motivated when (a) they can expect that their behavior will result in the outcomes (instrumentality) in which they are interested and (b) the subjective value of the outcomes is higher.

De Volder and Lens (1982) found a positive correlation between students' motivation (Grade 11) and the length of their FTP. More motivated students attach significantly more value to goals in the distant future than do less motivated students. More motivated students also attach significantly more instrumental value to their schoolwork for reaching goals in the near and the distant future.

Analogous to De Volder and Lens (1982), Shell and Husman (2001) make a distinction between two aspects or components of future time perspective: *valence* and *perceived instrumentality/utility*. They call this second aspect "FTP connectedness." They found that, in a group of predominantly white, middle-class undergraduates, FTP connectedness (but not FTP value) correlated with GPA, study time, and study effort.

Lens and Decruyenaere (1991) measured the instrumental value of studying in general (in three different types of high school education) for success in later life (also in general). They found that high, medium, and

low motivated subgroups of students significantly differed (in the predicted direction) in the instrumental value or utility of "doing your best in school" for success in life in general.

Van Calster, Lens, and Nuttin (1987) also found a significant main effect of perceived instrumentality on motivation. Students in Grades 11 and 12 (ages 17–19) who perceive their education as important for their future (high instrumentality) are significantly more motivated than are students who rate their high school education as less important (less instrumental). But the researchers also found a significant interaction effect of perceived instrumentality and affective attitude toward the individual future. Perceived instrumentality enhanced student motivation, but only for those students who had a positive attitude toward their individual future. Attaching high utility to school results had the opposite effect on the motivation to study for students with a negative outlook on their future. The combination of a high-perceived instrumentality (of doing your best in school for the personal future) and a positive attitude toward the personal future had a positive effect on motivation and school results. A very bleak outlook on the future seemed to be a demotivating variable.

Moreas and Lens (1991; see also Lens, 2001) provided further evidence for the positive correlations between FTP, perceived instrumentality, and student motivation. They asked ninth-grade students to rate the importance or value of 10 motivational goals in the rather near future (within two years, that is, during their high school years) and 10 goals in the more distant future. They also asked the students to indicate the instrumentality of "doing my best for my studies" for reaching each of those 20 goals. Students with a very long FTP were significantly more motivated than were students with a short or very short FTP. They also found a significant positive relationship between the length of FTP and the anticipated value of goals, the perceived instrumentality of study behavior to reach future goals, and, hence, between the length of FTP and the product of value and instrumentality. As expected, these relations were stronger for distant goals than for near goals.

Creten, Lens, and Simons (2001) studied the motivational role of perceived instrumentality or utility in vocational schools in Flanders, Belgium. Many of the students in those schools had serious motivational problems, especially for theoretical courses such as mathematics, languages, and history. Most had started in a much more demanding type of secondary education (e.g., humanities, math, and sciences) but failed. They (and especially their parents) were forced to change their educational aspirations during high school, first to a more technical education and then finally to the lower educational level of a mostly practical vocational training (in high school).

Even before they have to change to a vocational school, most students cease to be intrinsically motivated to study, especially for their more theoretical courses. If they are motivated at all, it is because of extrinsic reasons. They study because they are forced to or because they will receive material or financial rewards when they receive good grades (Lens & Decruyenaere, 1991).

Many vocational students also have a rather short future time perspective (Lens & Decruyenaere, 1991; Phalet & Lens, 1995). They do not look very far into the future; they prefer to live "here and now." As a consequence, they are not well aware of, or do not care much about, the instrumentality or utility of their present school career. This is even more so for theoretical courses than for more practical courses. Creten, Lens, and Simons (2001) were interested in whether or not the relation between FTP and motivation would also apply to this problem group, or, in other words, if those students in vocational education who perceived the future relevance of, for example, a second language, were more motivated for that course than were students who are not aware of the future importance of the same course. Is it possible to motivate these students by pointing to the future contingencies of their present schoolwork?

Table 8.2 provides mean scores for students' motivation and perceived importance or instrumentality of these courses for personal goals in the near and the distant future for two theoretical courses (PAV or "project general education" and French as a second language) and one practical course.

Table 8.2. Mean motivation to study and instrumentality for two theoretical and one practical course

Courses	*Student Motivation*	*Instrumentality for Near Goals*	*Instrumentality for Distant Goals*
PAV (theoretical)	2.61	2.15	2.16
French language	2.56	2.49	2.62
Practical	3.21	2.53	2.89

Students were significantly more motivated for the practical course than for each of the two theoretical courses. For each of the three courses, Creten and colleagues (2001) measured the perceived instrumentality for near (within two years) and for more distant goals. As expected, the perceived instrumentality differed from course to course, for both near and distant goals. For the near future goals, the instrumentality of French was as high as for practical courses. For long-term goals, practical courses were perceived as most useful. Students also found French important for the future, whereas with regard to PAV, many students had problems seeing its utility either for the near or the distant future.

For the full sample of 733 students, there were significant correlations between instrumentality and student motivation (.14 for near goals and .19 for distant goals). Table 8.3 shows that, in general, students who perceived their studies as low instrumental for their goals in the near or the more distant future were less motivated. For the near goals, students with low perceived instrumentality were significantly less motivated (M = 2.61) than were students with medium (M = 2.90) or high-perceived instrumentality (M = 2.86); the same result was found for the distant goals.

Table 8.3. Student motivation as a function of perceived instrumentality for near and distant goals

	Motivation	
Instrumentality	*Near Goals*	*Distant Goals*
Low	2.61	2.58
Medium	2.90	2.81
High	2.86	2.96

Students who ascribed more utility to their practical courses were more motivated for these courses than they were for French or PAV. The students were not more motivated for French than for their general theoretical course PAV, although they attached a higher utility value to French. It seems that perceived instrumentality or utility was an important but not sufficient condition for developing student motivation. For example, the students knew that in bilingual Belgium, French is important for their future professional career and for life in general, but they complained that the content of the course and the way in which it was taught was not motivating enough.

Zaleski (1987, 1994) found that self-reported, goal-oriented striving, effort, and persistence are higher for distant goals. Long-term goals require more work. Achieving long-term goals is facilitated by formulating a series of short-term subgoals, leading to the (provisional) final goal in the more distant future (Bandura & Schunk, 1981; Bandura & Simon, 1977). But Zaleski (1987) also found that "if proximal goals are intermediate, instrumental subgoals necessary for attainment of the final end states, then those who have distal goals work harder on the proximal ones" (p. 34).

However, one may wonder whether the motivational effect of distal goals (or FTP) is homogenous and merely relying on the temporal aspect. In the next section, we distinguish different types of instrumental relationships between present tasks or goals and goals in the more distant future. We also discuss how these different types of distant goals may affect present goal orientation and intrinsic motivation. Finally, we discuss the resultant

motivation for a learning or achievement task for which the individual is intrinsically motivated (intrinsic proximal goal) but that also has important consequences for the future because of its utility (instrumentality) for different kinds of future goals.

INSTRUMENTAL MOTIVATION, INTRINSIC MOTIVATION, AND GOAL THEORY

To the extent that learning is motivated by future goals (instrumental motivation), it is not in itself rewarding. Adopting the traditional and broadly used definitions of intrinsic motivation and task orientation, instrumental motivation can only be extrinsic motivation. Eccles (1984) contrasted utility value, which she described as "the importance of [a] task for some future goal that might itself be somewhat unrelated to the process nature of the task at hand" (p. 90) with interest value, which she described as "the inherent, immediate enjoyment one gets from engaging in an activity" (p. 89). In line with the traditional definition of intrinsic motivation, Eccles also characterized utility value as a form of extrinsic motivation and interest value as a form of intrinsic motivation.

Raynor (1969, 1981; Raynor & Entin, 1982) elaborated Atkinson's theory of intrinsic achievement motivation to incorporate the concept of instrumentality, utility, or future time perspective in the research on achievement motivation. His theory provides a mathematically formalized model of how to combine intrinsic and instrumental motivation. Future orientation or future time perspective is "the impact on motivation for some present activity of perceiving its instrumental relationship, as a step in a longer path, to more distant future goals and threatening consequences" (Atkinson & Raynor, 1974, p. 5). But Raynor's theory only applies when the "present activity" is an achievement task, the "future goal" is success in another achievement task, and the "threatening consequences" are failures in those future achievement tasks. In other words, the present and the future goals are intrinsic achievement-related goals: achieving success and avoiding failure in an achievement task. The motivation to strive for success and to avoid failure in a forthcoming achievement task is for Raynor not only a function of the individual's motive to succeed and motive to avoid failure, as well as of the difficulty of that present task, but also of its utility or instrumentality for getting opportunities to strive for successes in future achievement tasks. In Raynor's theory, the immediate goals and the future goals, which affect the present motivation, belong to the same motivational category, the intrinsic achievement motivation. For Raynor, in contrast to certain "intrinsic theorists" (Deci, Koestner & Ryan, 1999, 2001; Lepper & Greene, 1978; Val-

lerand, 1997), motivation for the present task is not diminished if the person perceives the task as instrumental to future achievement goals. On the contrary, seeing tasks as instrumental increases the resultant achievement motivation.

If instrumental motivation is a form of extrinsic motivation, a first question is then to know if this also means that the utility value of learning and performing well in school will undermine the intrinsic task motivation in the same way as extrinsic rewards do under certain circumstances. Does instrumentality preclude being task oriented? Second, is future-oriented learning by definition externally controlled and hence not self-regulated? Based on empirical research, we answer these two questions for different types of instrumental student motivation.

To answer the first question about the motivational implications of perceived instrumentality or utility, four different types of instrumentality are distinguished (Lens, 2001; Lens & Rand, 1997; Simons, De Witte, & Lens, 2000, 2001). These types are defined by combining two dimensions. The first dimension refers to the kind of conditions that regulate behavior. Behavior can be externally or internally regulated (Deci & Ryan, 1985, 2000; Rigby et al., 1992). Behavior is considered as externally regulated when its underlying motives originate outside the person (e.g., the promise of a reward, an order, the threat of punishment). A behavior is internally regulated when its underlying motives are internal to the individual (e.g., intrinsic motivation, own development, life projects).

The second dimension refers to the kind of capacities needed now (during their training or as a student) and in the future (working as a professional). In other words, this dimension concerns the relation between a present task and a future task or goal. Tasks in the present are to some extent instrumental to some future outcomes. Different capacities are used when studying compulsory courses that are not related to future professional goals (for example, studying mathematics to become a nurse). The capacities or competencies used in the present task and the future task or goal achievement can also be the same (for example, studying anatomy so as to become a nurse). When the present task requires the same competencies or capacities as the future task, it has a higher utility or instrumentality than when it is unrelated to the capacities or competencies needed in the future.

The combination of these two dimensions (regulation and kind of capacities/utility value) results in four types of instrumentality (see Table 8.4). In the first type, the present task and the future task require different capacities (low utility value or low instrumentality) and the future task or goal externally regulates the present activities. In other words, the individual is mainly interested in obtaining future rewards that follow the behavior and that are external to the individual (externally regulated). For example, a student can study for a test to obtain good grades so as to show

Table 8.4. Types of instrumentality

	Reasons for Studying	
Kind of Capacities Needed	*Extrinsically Regulated*	*Intrinsically Regulated*
Different at both moments	LU-E	LU-I
The same at both moments	HU-E	HU-I

off, or because his parents promised him a car when he succeeds at the test. This type will be referred to as LU-E (i.e., Low Utility value and Externally regulated). In the second type, there is also no direct relation between the present and the future task (they are different regarding the capacities they require), but the future task or goal internally regulates the present activities. For example, "I want to become a nurse. I am studying hard in this psychology class because this course contributes to greater personal development." In other words, the required capacities now and in the future are different but one acknowledges that the skills and knowledge that one is acquiring while studying may be personally relevant. In this case, the behavior originates within the person; there is no obligation to study. One engages in studying for the sake of one's own development. It will be referred to as LU-I (i.e., Low Utility and Internally regulated). In the third type, the same capacities are at stake now and in the future (high utility), but the future task externally regulates the present one. For example, one may be studying hard for anatomy so as to become chief nurse in the future and make a lot of money. This type of instrumentality will be referred to as HU-E (i.e., High Utility and Externally regulated). In the fourth type, the same capacities and knowledge are used at both moments (high utility) and the future task or goal internally regulates the present activities. For example, one may be studying hard for history to become a good history teacher. The skills and the knowledge that one is acquiring now are the same ones one will use later. This type of instrumentality will be referred to as HU-I (i.e., High Utility and Internally regulated).

The motivational correlates of these four types of instrumentality or utility were studied in a group of 293 students following their first year training as teachers (kindergarten teachers, primary school teachers, and junior high school teachers). This was the first year after graduating from high school. The mean age for all students was 19.5 years with SD = 1.7. All students voluntarily participated during regular class hours.

Students were administered a self-report questionnaire that measured different aspects of student motivation and cognition. The students' name, age, gender, and previous studies in secondary school were assessed at the beginning of the questionnaire. The remainder of the questionnaire included assessment of the subjects' motivation for the courses they had to

take during their first year, the perceived instrumentality of the courses, the preferred learning strategies (surface and deep level learning strategies), perceived ability, students' orientation toward task goals and ego goals (task goals, positive and negative ego goals, their study habits (studying during the week, studying during the weekend, and neglecting the course), and their persistence when encountering some difficulties.

All students had to fill in all items for all courses. Administration took approximately 1 hour. Students also had to classify their 12 courses according to both instrumentality dimensions. First, they had to check whether the course was useful for their education only or also for their future job. Second, they had to indicate if the motives underlying their efforts were rather internally or externally regulating their behavior. The combination of both judgments for each course allowed us to assign every course for every participant to one of the four cells in Table 8.4. The highest variability across participants was observed for the course "social and cultural engagement" (see the N-values in Table 8.5). Therefore, we only use that course in the analyses.

Table 8.5. Goal Orientation, Learning Strategies, Motivational Behaviors, Study Behavior, and Performance as a Function of Type of Instrumentality

	Type of Instrumentality				*Significance*	
	LU-E $N = 78$	*LU-I* $N = 68$	*HU-E* $N = 67$	*HU-I* $N = 80$	*F-score*	*p-score*
Task goal	2.02^{d}	2.59^{b}	2.38^{c}	2.99^{a}	42.13	0.0001
Positive ego goal	2.35^{a}	1.82^{c}	2.02^{b}	1.64^{d}	42.31	0.0001
Negative ego goal	2.23^{a}	1.81^{c}	2.04^{b}	1.67^{d}	39.95	0.0001
Surface level learning	2.22^{a}	1.75^{c}	2.03^{b}	1.54^{d}	38.52	0.0001
Deep level learning	2.32^{d}	2.82^{b}	2.61^{c}	3.11^{a}	34.07	0.0001
Motivation	2.00^{d}	2.53^{b}	2.26^{c}	2.97^{a}	36.92	0.0001
Interest	2.08^{d}	2.59^{b}	2.21^{c}	2.98^{a}	36.73	0.0001
Persistence	2.44^{d}	3.01^{b}	2.78^{c}	3.33^{a}	48.68	0.0001
Effort	2.36^{d}	2.91^{b}	2.64^{c}	3.34^{a}	48.98	0.0001
Studying during the week	2.03^{d}	2.84^{b}	2.45^{c}	3.26^{a}	57.12	0.0001
Studying during weekend	1.69^{d}	2.39^{b}	1.91^{c}	2.74^{a}	36.06	0.0001
Neglecting the course	2.80^{a}	1.85^{c}	2.22^{b}	1.59^{d}	47.97	0.0001
Perceived ability	2.65	2.67	2.64	2.69	1.23	ns
Performance (on 20)	10.25^{d}	13.67^{b}	11.42^{c}	14.95^{a}	55.15	0.0001

Note: Means with another superscript are significantly different (within a row).

To explore differences between the different types of instrumentality, we conducted univariate analyses of variance. The overall mean scores for each of the outcome measures as well as F and p values are presented in Table 8.5.

Do different types of instrumentality elicit different goal orientations? For task goals, the analysis yielded a significant overall effect of type of instrumentality ($F(3, 289) = 43.13$, $p < 0.0001$). Type HU-I led to most task orientation, whereas students characterizing a course as type LU-E were least task oriented. For positive and negative ego orientation, a significant overall effect of type of instrumentality was found (respectively $F(3, 289) = 42.31$, $p < 0.0001$; $F(3, 289) = 39.95$, $p < 0.0001$). When students characterized the course as an example of type LU-E or type HU-E, they were not only more positive ego oriented, but also more negative ego oriented than were students who characterized the course as type LU-I or type HU-I. At the same time, they wanted to avoid looking stupid and were worried about how others perceived them when asking questions or making mistakes.

Results indicated a significant overall effect of type of instrumentality on surface and on deep level learning strategies (respectively $F(3, 289) = 38.52$, $p < 0.001$; $F(3, 289) = 34.07$, $p < 0.001$). Students who classified the course as type LU-E or as type HU-E used fewer deep level strategies and more surface level strategies than did students who classified the course as an example of type LU-I or type HU-I.

The analyses also yielded a significant overall effect of type of instrumentality on motivation ($F(3, 289) = 36.92$, $p < 0.0001$), interest ($F(3, 289) = 36.73$, $p < 0.0001$), persistence ($F(3, 289) = 48.68$, $p < 0.001$), and effort ($F(3, 289) = 48.98$, $p < 0.0001$). Students who characterized the course as internally regulated (LU-I or HU-I) were more motivated and interested. They also persisted longer and spent more time trying to master the material. Perceiving the course as type LU-E was even more harmful than perceiving the course as an example of type HU-E.

Results indicated a main effect of type of instrumentality on studying regularly during the week and during the weekend (respectively $F(3, 289) = 57.12$, $p < 0.001$ and $F(3, 289) = 36.06$, $p < 0.001$) and on neglecting the course ($F(3, 289) = 47.97$, $p < 0.001$). In line with expectations, characterizing the course as an example of type LU-I or type HU-I encouraged positive study habits. These students studied more regularly and neglected their course less than did students who characterized the course as an example of type LU-E or as type HU-E. The analysis of type of instrumentality on perceived ability did not reveal a significant main effect ($F(3, 289) = 1.23$, *n.s.*).

Analysis of variance with instrumentality as the independent variable and students' marks as the dependent variable revealed a significant main effect of type of instrumentality on students' marks ($F(3, 289) = 55.15$, $p < 0.001$).

Students who characterized the course as an example of type HU-I received the highest marks, followed by students who characterized the course as an example of type LU-I and type HU-E. Students who characterized the course as an example of type LU-E received the poorest marks.

These findings provide evidence that the type of perceived instrumentality has a differential influence on motivation, learning strategies, goal orientation, study behaviors, and academic achievement. In particular, the most positive and adaptive pattern emerges when students value both intrinsic reasons and the utility/instrumentality of the course for their future job (type HU-I).

These findings also underline that it is time to abandon the overly prudent attitude toward extrinsic motivations. This attitude, which continues to be prominent in current goal theories (e.g., Ames, 1992, Covington, 2000), has dominated educational psychology since Deci's (1975; Deci & Ryan, 1985) and Lepper and Greene's (1978) influential work on the undermining effect of extrinsic goals on intrinsic motivation. The present study suggests that so-called extrinsic motivations (derived from intrinsically motivated future activities as well as from anticipated future activities that invoke the same skill as the present activity) may not only be harmless, but may even enhance optimal goal orientation and study motivation.

VOLITIONAL IMPLICATIONS OF FUTURE TIME PERSPECTIVE AND INSTRUMENTALITY PERCEPTIONS

Even when overall motivation is high, it is likely that students often face subtasks that they do not much enjoy. They may not feel like going to the library or completing homework. In other words, although intrinsic motivation may well be invaluable on the short term, students will need other things to meet all their responsibilities during an entire course or program. Therefore, it is worthwhile to explore the volitional implications of instrumentality perceptions and future time perspective.

We reviewed evidence that future time perspective in general, and instrumentality in particular, are positively related to motivation. However, the overview does not address the process that underlies this relation. At first sight, the theoretical analysis suggests that instrumentality directs volitional resources to the behavior that is considered instrumental to the distant goal. Students realize how important their studying behavior is for later success and therefore consider studying hard as their duty. However, we doubt that this is a realistic or durable strategy. In other words, we are skeptical about the power of extrinsic motivation that originates in instrumentality perceptions to *continually* provide the necessary motivation.

The main reason for this skepticism is that volitional resources that are typically relied on when one tries to convince oneself to engage in a certain activity are strongly limited and depletive (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven, Baumeister, & Tice, 1999). That is, people are very limited in their use of these resources. For instance, Baumeister and colleagues (1998) showed that people who were led to resist a tasty piece of cake did not persist as long on a difficult anagram. They replicated this with a host of other tasks. The paradoxical implication is that when one needs volitional resources to start a task that one does not fancy very much, one is more vulnerable to distracters for the minutes (or even hours?) to come. This is not a great forecast. Moreover, as Dewitte, Verguts, and Lens (2001) found, the nature of this mental resource might well be working memory capacity. Given that studying heavily relies on working memory and related mental resources, these data suggest that people may even be more vulnerable to distraction or temptation during studying than during other (less mental) activities. In sum, the extrinsic motivation provided by instrumentality perceptions is unlikely to provide the durable additional motivation needed to increase efforts and investments in less attractive behaviors. What other process could explain the relationship? The only other possibility is that the major avenue by which instrumentality works is by increasing intrinsic motivation, and not by increasing extrinsic motivation (in a durable way).

Indeed, as the data provided in Table 8.5 show, high utility and self-determined distant goals are not only related to more adaptive behavior (performance, persistence, effort, and studying time), but also to affective variables such as intrinsic motivation and even interest in the course. That is, the mere awareness that the activity in which one is engaged might be useful for later success enhances interest in the activity. We believe that increased interest, which is probably the main driving force or impetus for the enhanced behavior, has little to do with volition or self-control. Specifically, increasing interest is not related to a self-originating attempt to convince oneself to engage in an activity that may be dull. Rather, it is a highly reactive and affective change. Furthermore, relying on changed affect promises to be much more stable than relying on depletive willpower resources.

Nevertheless, as mentioned above, for most students, most courses will continue to have boring or less attractive aspects to them. It is in these circumstances that volitional processes come to the fore. At such times, students need to motivate themselves, relying on the depletive resources described earlier. Our findings suggest that higher instrumentality perceptions will substantially reduce the frequency of these occurrences. The implication is that the depletive resource may then not be overused so readily as they are by students who lack these instrumentality perceptions. However, instrumentality perceptions may yield an additional volitional

asset. They may reduce the internal conflict, as they provide self-controlling students with a ready-made argument during their internal conflict. These students no longer have to motivate themselves by trying to find out reasons why they should start studying now. Instead, they quickly remember why studying makes sense to them.

To summarize, instrumentality perceptions (and probably also future time perspective, as it facilitates instrumentality perceptions) have two important volitional implications. First and probably most important, they reduce the need for volitional resources to be directed at studying. The main process behind this change is hypothesized to be increased interest and intrinsic motivation. Second, in those remaining episodes in which self-control is really needed, instrumentality perceptions may also favor the self-control options to the disadvantage of the temptation (e.g., not studying but watching television) because it reminds the students of the good cause.

CONCLUSION

Our primary goal was to show the positive effects of perceived instrumentality or utility for students' motivation and self-regulation. Adopting the traditional definition of intrinsic motivation and task orientation, instrumental motivation should be defined as a type of extrinsic motivation. Different types of instrumentality or utility value are distinguished. In contrast with other types of extrinsic motivation that are based on rewards, punishments, or orders, some types of instrumentality do not seem to have any negative effect on intrinsic motivation, task orientation, or intrinsic interest. One type of instrumentality that is characterized by the future relevance of a task and its internal regulation elicits the most adaptive motivational behavior. This implies that educational psychology should reconsider the role of future time perspective for students' motivation. Intrinsic motivation and task-orientation require a concentration on present learning and achievement tasks. Our data show, however, that motivation, task orientation, and self-regulation are enhanced when one is oriented toward future goals and tasks that are endogenously related to the present tasks and that are not perceived by students as external regulators of their behavior. These data corroborate the rather new trend in motivational psychology that gives less importance to the distinction between so-called intrinsic and extrinsic motivation (see Deci & Ryan, 2000, in press). Perceptions of internal regulation, autonomy, and self-determination, versus perceptions of external regulation, seem to hold greater relevance. Self-set future goals and tasks that are experienced as internal regulators of present behavior enhance students' motivation and interests, and hence

persistence. Therefore, instrumentality perceptions are likely to diminish the need for costly volitional resources during studying. Rather than having to spoil these limited resources to enhance persistence, students can save them for learning how to master difficult problems. So, after all, parents and teachers are not necessarily wrong when they try to motivate their children or students by repeating again and again, "Do your best at school, it is so important for your future."

REFERENCES

Ainslie, G. (1992). *Picoeconomics: The strategic interaction of successive motivational states within the person.* Cambridge, UK: Cambridge University Press.

Allport, G. W. (1937). *Personality: A psychological approach.* New York: Holt.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84,* 261–271.

Ames R. E., & Ames, C. (Eds.). (1984). *Research on motivation in education: Vol. 1. Student motivation.* Orlando, FL: Academic Press.

Atkinson, J. W., & Feather, N. T. (Eds.). (1966). *A theory of achievement motivation.* New York: Wiley.

Atkinson, J. W., & Raynor, J. O. (1974). Introduction and overview. In J. W. Atkinson & J. O. Raynor (Eds.), *Motivation and achievement* (pp. 3–11). Washington, DC: Winston & Sons.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology, 41,* 586–598.

Bandura, A., & Simon, K. M. (1977). The role of proximal intentions in self-regulation of refractory behavior. *Cognitive Therapy and Research, 1,* 177–193.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74,* 1252–1265.

Cameron, J. (2001). Negative effects of reward on intrinsic motivation—A limited phenomenon: Comment on Deci, Koestner, and Ryan (2001). *Review of Educational Research, 71,* 29–42.

Cottle, J. T., & Pleck, J. H. (1969). Linear estimations of temporal extensions: The effect of age, sex, and social class. *Journal of Projective and Personality Assessment, 33,* 81–93.

Covington, M. (2000). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology, 51,* 171–200.

Creten, H., Lens, W., & Simons, J. (2001). The role of perceived instrumentality in student motivation. In A. Anastasia, J. Kuhl, & R. M. Sorrentino (Eds.), *Trends and prospects in motivation research* (pp. 37–45) Dordrecht, Netherlands: Kluwer Academic.

Deci, E. L. (1975). *Intrinsic motivation.* New York: Plenum Press.

Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125,* 512–598.

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research, 71,* 1–27.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self determination in human behavior.* New York: Plenum Press.

Deci, E. L., & Ryan, R. M. (1992). The initiation and regulation of intrinsically motivated learning and achievement. In A. K. Boggiano & T. S. Pittman, (Eds.), *Achievement and motivation: A social-developmental perspective* (pp. 9–36). Cambridge, UK: Cambridge University Press.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11,* 227–268.

Deci, E. L., Ryan, R. M, & Koestner, R. (2001). The pervasive effects of rewards on intrinsic motivation: Response to Cameron (2001). *Review of Educational Research, 71,* 43–51.

De Volder, M., & Lens, W. (1982). Academic achievement and future time perspective as a cognitive-motivational concept. *Journal of Personality and Social Psychology, 42,* 566–571.

Dewitte, S., Verguts, T., & Lens, W. (2001). *What is the ego in "egodepletion"? The relation between working memory overuse and self-control.* Manuscript submitted for publication.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41,* 1040–1048.

Eccles, J. (1984). Sex differences in achievement patterns. *Nebraska Symposium on Motivation, 32,* 97–132.

Eccles, J., Barber, B., Updegraff, K., & Wigfield, A. (1997, March). *Expectancies and values as predictors of gender differences, course enrollment decisions, and occupational plans in math and science.* Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Eisenberger, R., & Cameron, J. (1996). Detrimental effects of reward: Reality or myth? *American Psychologist, 51,* 1153–1166.

Eisenberger, R., Pierce, W. D., & Cameron, J. (1999). Effects of reward on intrinsic motivation: Negative, neutral, and positive: Comment on Deci, Koestner, and Ryan (1999). *Psychological Bulletin, 125,* 677–691.

Eisenberger, R., Rhoades, L., & Cameron, J. (1999). Does pay for performance increase or decrease perceived self-determination and intrinsic motivation? *Journal of Personality and Social Psychology, 77,* 1026–1040.

Feather, N. T. (1982). *Expectations and actions: Expectancy-value models in psychology.* Hillsdale, NJ: Erlbaum.

Fraisse, P. (1963). *The psychology of time.* Westport, CT: Greenwood.

Gjesme, T. (1981). Is there any future in achievement motivation? *Motivation and Emotion, 2,* 115–138.

Gjesme, T. (1982). Psychological goal distance: The lost dimension in achievement motivation research. In W. Hacker, W. Volpert, & M. von Cranach (Eds.), *Cognitive and motivational aspects of action* (pp. 86–98). Amsterdam: North-Holland.

Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology, 17,* 300–312.

Harter, S., & Jackson, B. K. (1992). Trait vs. nontrait conceptualizations of intrinsic/extrinsic motivational orientations. *Motivation and Emotion, 16,* 209–230.

Herrnstein, R. J. (1970). On the law of effect. *Journal of the Experimental Analysis of Behavior, 13,* 243–266.

James, W. (1890). *The principles of psychology.* New York: Holt.

Lens, W. (1986). Future time perspective: A cognitive-motivational concept. In D. R. Brown & J. Veroff (Eds.), *Frontiers of motivational psychology* (pp. 173–190). New York: Springer-Verlag.

Lens, W. (2001). How to combine intrinsic task-motivation with the motivational effects of the instrumentality of present tasks for future goals. In A. Anastasia, J. Kuhl, & R. M. Sorrentino (Eds.), *Trends and prospects in motivation research* (pp. 23–36). Dordrecht, Netherlands: Kluwer Academic.

Lens, W., & Decruyenaere, M. (1991). Motivation and demotivation in secondary education: Student characteristics. *Learning and Instruction, 1,* 145–159.

Lens, W., & Gailly, A. (1980). Extension of future time perspective in motivational goals of different age groups. *International Journal of Behavioral Development, 3,* 1–17.

Lens, W., & Moreas, M. A. (1994). Future time perspective: An individual and a societal approach. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 25–38). Lublin, Poland: Towarzystwo Naukowe KUL.

Lens, W., & Rand, P. (1997). Combining intrinsic goal orientations with professional instrumentality/utility in student motivation. *Polish Psychological Bulletin, 28,* 105–125.

Lepper, M. R., & Cordova, D. I. (1992). A desire to be taught: Instructional consequences of intrinsic motivation. *Motivation and Emotion, 16,* 187–208.

Lepper M. R., & Greene, D. (1978). (Eds.). *The hidden costs of reward.* Hillsdale, NJ: Erlbaum.

Lersch, P. (1966). *Aufbau der Person.* München: Johann Ambrosius Barth.

Lewin, K. (1938). *The conceptual representation and the measurement of psychological forces.* Durham, NC: Duke University Press.

Lewin, K. (1942). Time perspective and morale. In G. Watson (Ed.), *Civilian morale.* Boston: Houghton Mifflin.

Lewin, K. (1948). *Resolving social conflicts: Selected papers on group dynamics* (G. W. Lewin, Ed.). New York: Harper & Brothers.

Logue, A. W. (1988). Research on self-control. An integrating framework. *Behavioral and Brain Sciences, 11,* 665–709.

Luyten, H., & Lens, W. (1981). The effect of earlier experience and reward contingencies on intrinsic motivation. *Motivation and Emotion, 5,* 25–36.

Malone, T. W., & Lepper M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R. E. Snow & M. J. Farr (Eds.), *Aptitude, learn-*

ing, and instruction. Vol. 3. Conative and affective process analyses (pp. 223–253). Hillsdale, NJ: Erlbaum.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41,* 954–969.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38,* 299–337.

Mischel, W. (1981). Objective and subjective rules for delay of gratification. In G. d'Ydewalle & W. Lens (Eds.), *Cognition in human motivation and learning* (pp. 33–58). Leuven, Belgium & Hillsdale, NJ: Leuven University Press & Erlbaum.

Moreas, M. A. & Lens, W. (1991). *De motivationele betekenis van het individueel toekomstperspectief: Project 07/88/6* (Vols. 1–3) [The motivational significance of the individual future time perspective: An unpublished research report]. K. U. Leuven: Departement Psychologie, niet-gepubliceerd onderzoeksrapport.

Muraven, M., Baumeister, R. F., & Tice, D. M. (1999). Longitudinal improvement of self-regulation through practice: Building self-control strength through repeated exercise. *Journal of Social Psychology, 139,* 446–457.

Nurmi J. E. (1994). The development of future-orientation in a life-span context. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 63–74). Lublin, Poland: Towarzystwo Naukowe KUL.

Nuttin, J. (1964). The future time perspective in human motivation and learning. In *Proceedings of the 17th International Congress of Psychology* (pp. 60–82). Amsterdam: North-Holland.

Nuttin, J. (1980). *Motivation et perspectives d'avenir.* Leuven, Belgium: Presses Universitaires de Louvain.

Nuttin, J., & Lens, W. (1985). *Future time perspective and motivation: Theory and research method.* Leuven, Belgium & Hillsdale, NJ: Leuven University Press & Erlbaum.

Oyserman, D., & Markus, H. (1990a). Possible selves and delinquency. *Journal of Personality and Social Psychology, 59,* 112–125.

Oyserman, D., & Markus, H. (1990b). Possible selves in balance: Implications for delinquency. *Journal of Social Issues, 46,* 141–157.

Phalet, K., & Lens, W. (1995). Achievement motivation and group loyalty among Turkish and Belgian youngsters. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement. Vol. 9: Culture, motivation, and achievement* (pp. 32–72). Greenwich, CT: JAI Press.

Pintrich, P. R., & Schunk, D. (1996). *Motivation in education: Theory, research, and applications.* Columbus, OH: Merrill/Prentice-Hall.

Rachlin, H. (1995). Self-control: Beyond commitment. *Behavioral and Brain Sciences, 18,* 109–159.

Raynor, J. O. (1969). Future orientation and motivation of immediate activity: An elaboration of the theory of achievement motivation. *Psychological Review, 76,* 606–610.

Raynor, J. O. (1981). Future orientation and achievement motivation: Toward a theory of personality functioning and change. In G. d'Ydewalle & W. Lens (Eds.), *Cognition in human motivation and learning* (pp. 199–231). Leuven, Belgium & Hillsdale, NJ: Leuven University Press & Erlbaum.

Raynor, J. O., & Entin, E. E. (1982). *Motivation, career striving, and aging.* Washington, DC: Hemisphere.

Rigby, C. S., Deci, E. L., Patrick, B. C., & Ryan, R. M. (1992). Beyond the intrinsic-extrinsic dichotomy: Self-determination in motivation and learning. *Motivation and Emotion, 16*, 165–185.

Shell, D. F., & Husman, J. (2001). The multivariate dimensionality of personal control and future time perspective beliefs in achievement and self-regulation. *Contemporary Educational Psychology, 26*, 481–506.

Simons, J., Dewitte, S., & Lens, W. (2000). Wanting to have versus wanting to be: The effect of perceived instrumentality on goal orientation. *British Journal of Psychology, 91*, 335–351.

Simons, J., Dewitte, S., & Lens, W. (2001). *The effect of different types of instrumentality on motivational and cognitive variables.* Unpublished research paper, Department of Psychology, University of Leuven, Belgium.

Stipek, D. J. (1993). *Motivation to learn: From theory to practice* (2nd ed.). Boston: Allyn and Bacon.

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29, pp. 271–360). San Diego, CA: Academic Press.

Van Calster, K., Lens, W., & Nuttin, J. (1987). Affective attitude toward the personal future: Impact on motivation in high school boys. *American Journal of Psychology, 100*, 1–13.

Verstraeten, D. (1980). Level of realism in adolescent future time perspective. *Human Development, 23*, 177–191.

Wigfield, A., & Eccles, J. S. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review, 12*, 265–310.

Woodworth, R. S. (1918). *Dynamic psychology.* New York: Columbia University Press.

Zaleski, Z. (1987). Behavioral effects of self-set goals for different time ranges. *International Journal of Psychology, 22*, 17–38.

Zaleski, Z. (1994). (Ed.). *Psychology of future orientation.* Lublin, Poland: Towarzystwo Naukowe KUL.

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